SHORT-TERM IMPROVEMENTS IN TRANSIT ACCESS TO SOUTHERN PACIFIC PASSENGER SERVICES IN SAN FRANCISCO

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PLANNING DIVISION
AUGUST 1976

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Report Summary

1. Recent office development in the Lower Market Street Area has shifted the focus of the Financial District to the east, away from Montgomery Street. Many new jobs are located outside the catchment area of existing SP Depot lines.

2. City policy calls for maximization of the use of transit for commuter trips. However, SP's Fourth Street Depot - terminus of the important Peninsula rail service - is not adequately linked to new job sites; furthermore, PUC policy prohibits the provision of new transit services without compensating reductions in existing services.

3. It is proposed that a new SP Depot-Lower Financial District commuter shuttle be established, to be operated by diverting vehicle hours from the present 40-Commuter line. This new route will not result in any increase in costs to the Railway; examination of present loads on the 40-line show such a diversion to be feasible. The new line should be operated in both directions as an express with a 30¢ fare, and run via Beale and Main Streets to avoid Bay Bridge-related congestion.

4. To further encourage the use of transit by commuters, and to help arrest the erosion of rail patronage, some additional operational recommendations are made. These include some minor changes in train and Route 19-Polk schedules, minor modifications to the Route 32-Embarcadero boarding pattern at the foot of Market Street, and a proposal to stop all mid-day, evening and weekend local trains at Paul Avenue.

5. It is recommended that a pre-paid fare zone be established at the Fourth Street Depot for Route 40 patrons, and that Fast Pass marketing arrangements be concluded with Southern Pacific.

6. It is recommended that the Metropolitan Transportation Commission publish and distribute a "User's Guide" to the Southern Pacific services, which would include a complete description of connecting local transit services in all three counties.

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I. BACKGROUND

In late 1974 the Metropolitan Transportation Commission completed a feasibility study of upgrading the Southern Pacific's Peninsula rail passenger service. One of the study's recommendations was that immediate attention be given to possible minor improvements to the service. Identified as an important element of this "minor upgrading" program was improved local transit access to S.P. Stations, in particular the Southern Pacific Depot at Fourth and Townsend Streets in San Francisco.

In May 1975 a meeting was held by representatives of the San Francisco Municipal Railway, the Department of Public Works and the Metropolitan Transportation Commission for the purpose of discussing short-term Southern Pacific improvements, including upgrading the local transit service to the Depot, improvement of S.P./Muni information distribution, and the implementation of transit priority treatment on Fourth and Mission Streets.

On October 24, 1975 a meeting of the Fixed Rail Committee of the San Mateo County Transit District was held to discuss future improvement of access to the Depot, particularly in light of the fact that patronage on the Southern Pacific had decreased since the opening (June 1975) of the new terminal at Fourth and Townsend Streets. Subjects that were discussed included recommendations for improved operations of the Muni routes serving the Depot, particularly line 40-Commuter. There was also mention made of using Golden Gate Transit and/or AC Transit coaches to provide a link between the SP Depot and downtown San Francisco.

Shortly after the meeting of the Fixed Rail Committee, representatives of the Municipal Railway conferred with members of the Peninsula Commute and Transit Committee, a citizens organization, in order to ascertain the needs and concerns of SP/Muni patrons. Of particular concern to the members of the Committee was improved access to the heart of the Financial District. It was also felt that attention should be directed to providing transit service to new office developments along lower Market Street and the Embarcadero Center areas (see Appendix 1 for specific Peninsula Committee and Transit Committee recommendations).

II. RELEVANT POLICIES AND THEIR IMPACT

A. Fiscal Constraints

As a result of severe fiscal constraints currently being placed upon all City departments, the Public Utilities Commission has promulgated financial policy guidelines for Municipal Railway management. An important element of the policy guidelines is that no new additional service can be implemented on any route without a concommittant reduction in service on another route that will pay for the augmented service.

Accordingly, this report is predicated upon the assumption that no additional platform hours will be available in order to implement service alterations for SP commuters. It has been assumed that service alteration will depend upon the re-deployment of existing available manpower and vehicle resources on existing Depot services.

B. Public Transit and the Commuter

Although the PUC "service balancing" policy statement prohibits increased levels of Municipal Railway's operations, it does not preclude the realignment of existing services with the aim of encouraging increased utilization of public transit facilities linking sites along the Peninsula with Downtown San Francisco.

The City of San Francisco has clearly stated its policy to encourage transit use by commuters. The Transportation Element of the Comprehensive Plan states, under Fundamental Assumptions:

> "The assumption of this Plan is that until an optimum level is determined, the City should assess each new transportation project on the basis of the ability of the transportation system to accommodate additional commute travel and the impact on the quality of San Francisco's environment. To this end the Plan assumes that all additions to the commuter load as a result of job growth in the city should be accommodated by public transit."

On September 8, 1975 the San Francisco Board of Supervisors unanimously approved Resolution 670-75, which encourages the use of public transit by both residents and non-residents (see Appendix A).

The Resolved of this resolution is as follows:

> "That the Board of Supervisors of the City and County of San Francisco does hereby provide that it shall be the policy of the City and County of San Francisco to encourage the use of public transit for its own residents, for non-residents and for visitors, and to support the kind and quality of public transit most attractive to the greatest number of people and thereby reduce the need for automobile travel in residential neighborhoods and downtown."

C. Peninsula Transit Development

Transit service in San Mateo and Santa Clara counties is currently in a state of change and ferment. In both counties, local transit service is being provided by new transit districts. Longer-haul public transportation is offered by two private carriers - Greyhound Lines and the Southern Pacific Transportation Company; both of these services are in the throes of a long-term decline in ridership, and are clearly viewed as economic liabilities by their operating companies.

A series of studies of "what to do with transit on the Peninsula" has culminated in the Peninsula Transit Alternatives Study Project (PENTAP), being conducted under the auspices of the Metropolitan Transportation Commission. The Project is expected to result in the formulation of a definitive regional policy on the development of transit services in the Peninsula corridor.

Among the options for transit development is the upgrading of Southern Pacific's Peninsula passenger train service, an option which has been strengthened by the Railroad's recent offer to sell equipment and right-of-way to an appropriate transit district. In the meanwhile, the newly-created San Mateo Transit District and the Metropolitan Transportation Commission are concerned with the re-enforcement of the existing service in the short-term to prevent any further erosion of transit usage in this corridor. The San Francisco policies cited also support this effort. This report, therefore, concerns itself with short-term improvements in access to Southern Pacific passenger services in San Francisco that can be accomplished at little or no cost to the City.

III. PRESENT DEPOT ACCESS - ROUTES AND PATRONAGE

A. Routes (Figure 1)

The Southern Pacific Depot is currently served by seven Municipal Railway lines. They are:

Route 15-Third/Kearny

This route is one of the main transit links between the southeast section of the City and the downtown area. Although it is heavily utilized by San Francisco residents, there does not seem to be excessive overcrowding of coaches at the Depot during peak periods.

Route 19-Polk

This is the primary connection between the Depot and employment sites in the Civic Center Area. Since Route 19 terminates at the Depot, a substantial capacity is available to commuters during the morning peak. The Peninsula Commute and Transit Committee identified some minor problems in Route 19 depot operations (Appendix B); these are treated in a later section of this report.

Route 27-Noe

This route provides service between the Depot and the warehouse/industrial districts in the South of Market and Potrero Hill; its inner terminus is at the East Bay Terminal. Patronage is light, and almost entirely on the "Downtown leg" between the Depot and the East Bay Terminal.

Route 30-Stockton

This provides a direct link between the Depot, the major Downtown retail shopping area, Chinatown and the northern part of the City. The line's southern terminus is on Townsend Street east of Fourth, across the street from the Depot.


Municipal Railway
Lines Serving
SP Depot
BARTO TUBE
EAST BAY TERMINAL
EMBARCADERO
BEALE
SPEAR
DAVIS
FRONT
BATTERY
MONTGOMERY
KEARNY
GRANT
STOCKTON
POWELL
MASON
TAYLOR
JONES
LEAVENWORTH
HYDE
LARKIN
POLK
VAN NESS
FRANKLIN
GOUGH
OCTAVIA
LAGUNA
BUCHANAN
WEBSTER
FILLMORE
STEINER
PIERCE
DIVISADERO
BAKER
LYON
MARKET
FEDERAL BLDG
UNION SQUARE
MISSION
JESSIE
MINNA
NATOMA
HOWARD
FOLSOM
HARRISON
BRYANT
BRANNAN
TOWNSEND
KING
BERRY
4TH
5TH
6TH
7TH
8TH
9TH
10TH
11TH
SOUTHERN PACIFIC
STANFORD
CALIFORNIA
PACIFIC
CLAY
SACRAMENTO
COMMERCIAL
MERCHANT
ANNIE
STEVENSON
JESSIE
MINT
MAIDEN LANE
ELLIS
O'FARRELL
GEARY
POST
SUTTER
BUSH
PINE
CALIFORNIA
MISSION ROCK
CHINA BASIN
3rd ST
SOUTH PARK
RINCON HILL
SOUTH BEACH
MISSION BAY

Route 32-Embarcadero

Together with Route 40, this line is utilized in the rush hour almost exclusively by SP commuters. Originally designed as a waterfront route, and subsidized by the State Board of Harbor Commissioners, Route 32 now serves not only the Embarcadero, but also the eastern fringe of the Financial District. As this area has seen a heavy concentration of recent office construction, Route 32 has developed a strong commuter character. The line has a heavy peak Depot use, and has occasioned some concern (see letter from SP Commute Traffic Manager, Appendix C).

Route 40-Commuter

This is the single most important route serving the SP commuter market. It provides a local service in the A.M. peak to the Financial District, while the P.M. service is operated as an express route. The northern terminal at Second and Stevenson Streets is south of Market Street, while the center of activity of the Financial District is north of Market; this is one of the major deficiencies of the service.

Route 42-Third/Sansome

Though the service area for this route approximates that of line 15 as far north as Bush, it does provide access for SP commuters to an area not serviced by line 15 -- the Battery/Sansome portion of the Financial District which borders on the Embarcadero Center/Golden Gateway area. A possible extension of the line north to new office developments on the Northern Waterfront is contemplated.

B. Route Patronage

In order to obtain an accurate appraisal of capacity and patronage on routes serving the Depot, passenger volume checks were conducted at the terminal on November 5, 1976 during both peak periods. Since these checks took place at a time when the Muni was experiencing significant equipment reliability problems further checks were conducted in early March when the equipment situation had markably improved. A summary of the data collected follows:

A.M. PEAK

LINE	PASSENGERS BOARDING AT DEPOT	OBSERVED VEHICLE TRIPS	AVERAGE NO. OF BOARDING PASSENGERS
15/42	573	46	12.5
19	195	12	16.3
27	69	11	6.3
30	694	28	24.8
32	756	20	38.0
40	1604	33	48.6
TOTAL TRIPS	3891		

P.M. PEAK

PASSENGERS ALIGHTING AT DEPOT	OBSERVED VEHICLE TRIPS	AVERAGE NO. OF ALIGHTING PASSENGERS
728	38	19.2
167	11	15.2
114	9	12.7
780	29	26.9
873	19	45.9
649	12	54.1
3311		

PASSENGER DISTRIBUTION PER LINE

A.M. RUSH HOUR (7-9 A.M.)

LINE	PASSENGERS	% OF TOTAL
15/42	573	14.7
19	195	5.0
27	69	1.8
30	694	17.8
32	756	19.4
40	1604	41.2
TOTAL	3891	100.0

P.M. RUSH HOUR (4-6 P.M.)

LINE	PASSENGERS	% OF TOTAL
15/42	728	21.9
19	167	5.0
27	114	3.4
30	780	23.6
32	873	26.4
40	649	19.6
TOTAL	3311	100.0

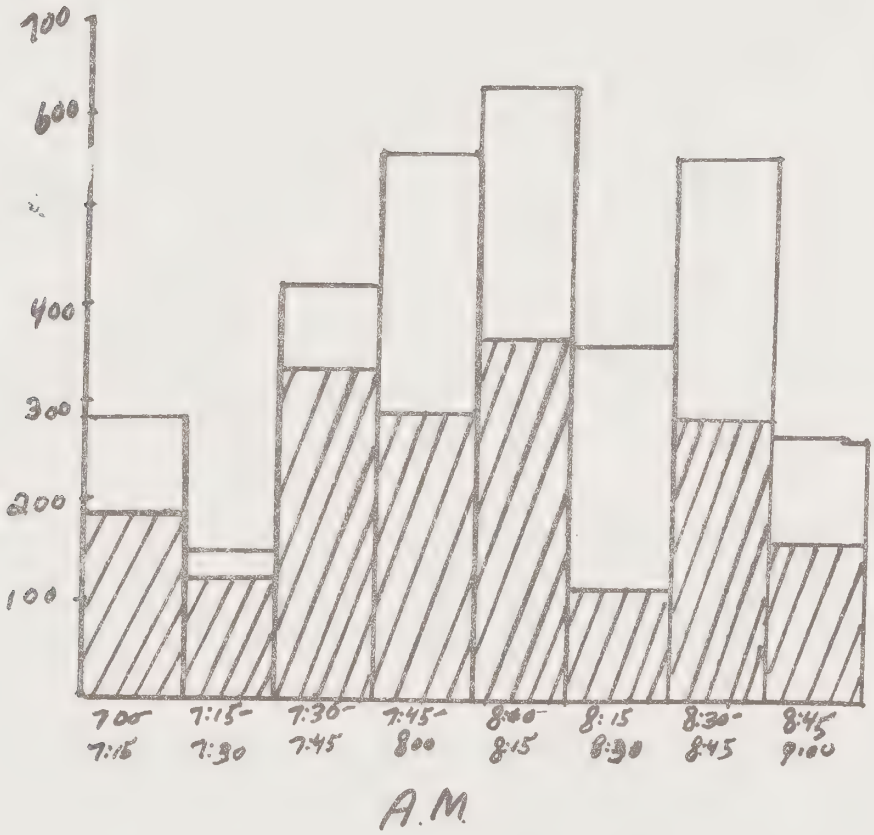
Patronage

Excess of Capacity Over Patronage

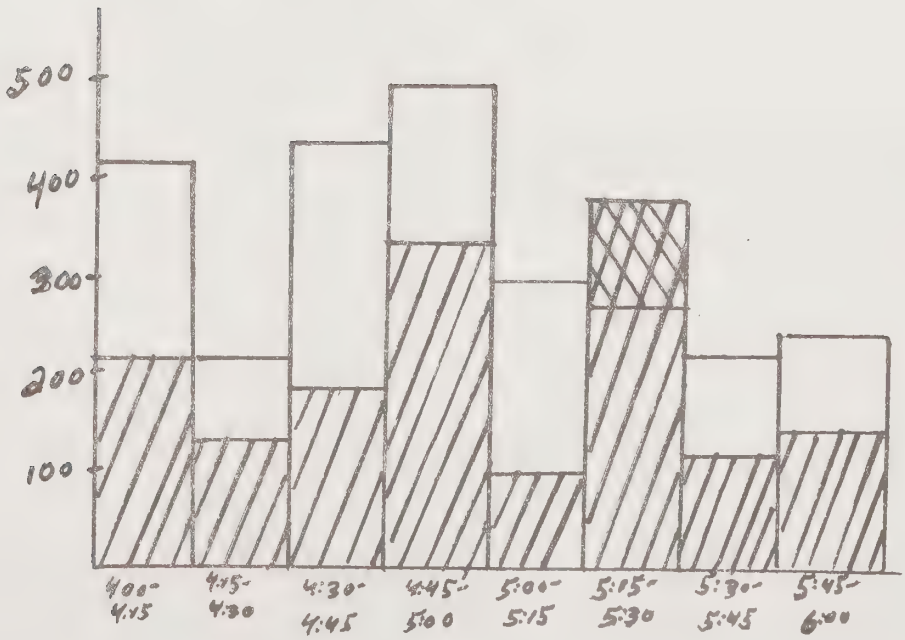
Excess of Patronage Over Capacity

FIGURE 2

Routes 15/42
Patronage and
Capacity



A.M.



P.M.

An interesting aspect of the patronage distribution is that Route 30 accommodates a larger portion of both the A.M. and the P.M. peak ridership than Routes 15/42, even though Route 30's alignment does not serve the Financial District as well as that of Routes 15/42. One possible explanation for this is that Routes 15/42 are paralleled by Route 40 to the Financial District. Furthermore, the available seat capacity of Route 30 is considerably higher than Routes 15/42 since the 30's terminal is at the SP Depot while, except for a few trips that commence at the Depot, Routes 15/42 have the Depot at approximately their mid-point. While Depot passengers can board the 15/42, they generally cannot obtain a seat; seats are readily available on line 30.

Field examinations indicated that despite the fact that Routes 15/42 do not originate at the Depot, considerable capacity seemed to be available on many of the coaches observed on the survey date. This is taking place despite the fact that the service area of Routes 15/42 is superior to that of Route 40, which did experience significant demands on available capacity.

Figure 2 indicates the relationship between available capacity and ridership, based upon recent checks. The capacity is based on a nominal 72 passengers per GM diesel bus, 60 passengers per AMG diesel bus, and 72 passengers per trolley coach.

Except for the 5:15-5:30 segment of the P.M. peak, there is excess capacity throughout both peak periods. An examination of the schedules for the 15/42 indicates that surplus capacity would have been available during the 5:15-5:30 periods if the required amount of equipment had been in service. It should also be noted that in the A.M. peak significant capacity is available on Routes 15/42 at the time -- approximately 8:10-8:30 -- that the maximum number of trains with heavy loads is arriving at the Depot.

The basic Depot access problem therefore, appears to lie in the matter of the route structure and operations, rather than in the level of service on existing routes.

IV. EVALUATION OF NEW ROUTE PROPOSALS

A. Inadequacies of the Present Route Structure

One of the major concerns of current SP/Muni patrons is that, while intensive high-rise office development has occured in the eastern portion of the Financial District, Muni lines serving the Depot have route alignments and service levels that are geared to serving what has more traditionally been regarded as the Financial District.

Route 32-Embarcadero serves the eastern fringe of the Lower Financial District, but its stops are a considerable distance from many major office developments that have taken place within the last ten years.

Prior to examining the financial and operational feasibility of routing lines to the Lower Market Embarcadero Center, the extent to which the existing routes serve existing and proposed office developments was assessed.

This examination involved mapping out the "catchment areas" of each of the seven lines serving the Depot (Figure 3). The catchment area is the sphere of influence for a transit route; usually it is that area within a 1000-foot walking distance of transit stops along the route. Research indicates that most of a transit lines's patronage is gathered from a walking distance of approximately 1000 feet, and that very few passengers are willing to walk more than a quarter mile, or about 1300 feet to catch a bus (Figure 4).

Figure 3 indicates that much of the heavily-developed Lower Financial District is outside the catchment area of existing routes. Prominent among those sites not within the catchment area are Embarcadero Center Three (near completion), the Mutual Life Building and the Union Bank Building.

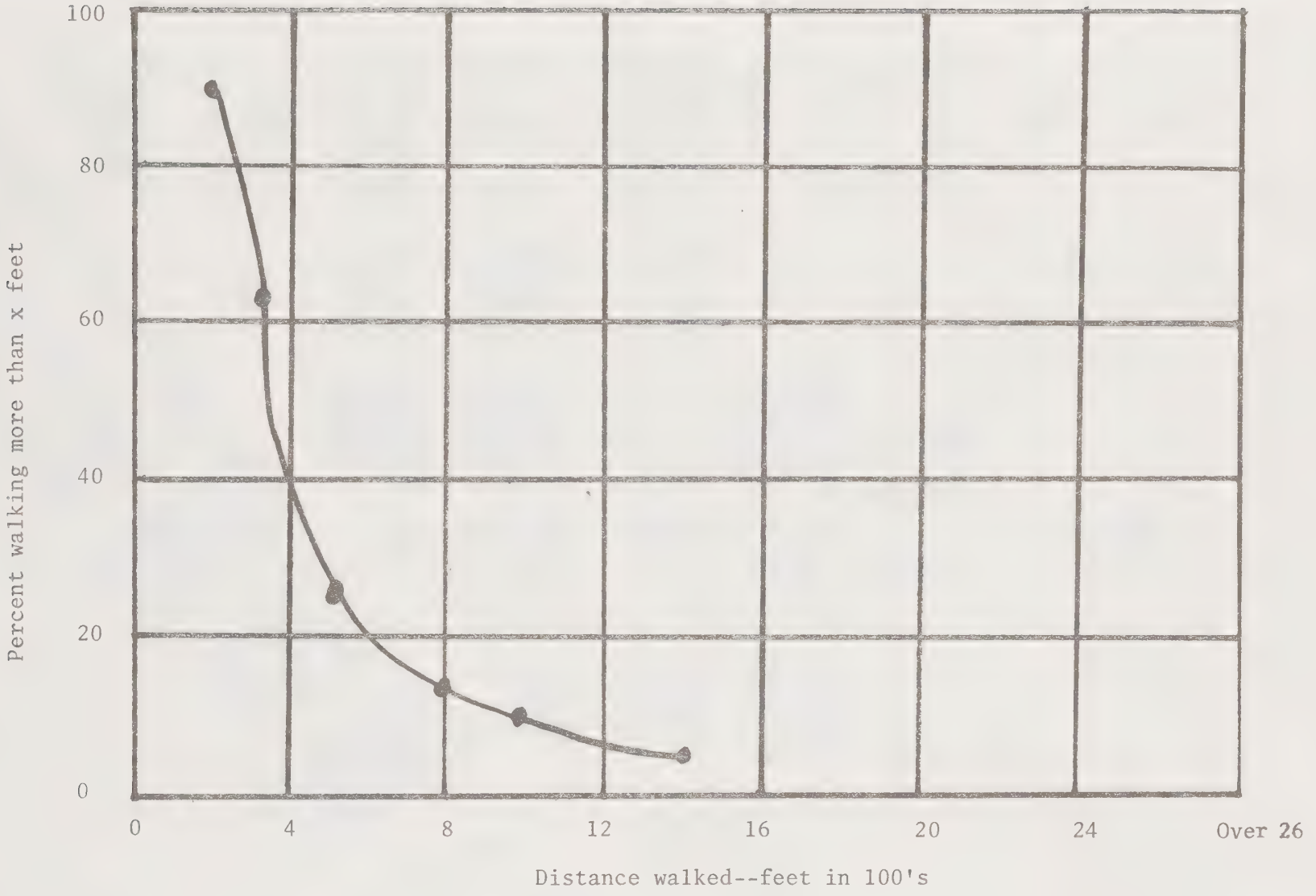
Where Figures 3 and 4 demonstrate that the eastern portion of the Financial District, developed in the last few years on a part of the former Produce District site, is not served by SP Depot lines, Figure 5 shows that this part of the Financial District is already developed at an intensity about equal to that of Montgomery Street itself. Figure 5 also indicates that in the post-1975 period, even more intensive development is expected to occur there. The traditional center of the Financial District, Montgomery Street, has been the focus of the 40-line for many years; but newer development has created new needs to the east, beyond the catchment area of the existing SP Depot services. Accordingly, the principal criterion for the establishment of a new SP Depot Financial District route is that it serve the part of the Financial District not served by the existing lines.

FIGURE 3

Catchment Area of
Existing Depot Services
In Lower Financial District

Area Within
1000 Feet of
Routes

FIGURE 4



Downtown Washington, D.C. distribution of people walking more than various distances to bus stops.

Source: Alan M. Voorhees and Associates, Feasibility of Transit Service for Columbia, (Washington: By the author, 1964), Fig. II.

Figure 5

Representation of

Financial District Employment Densities

500 Employees, through 1975

500 Employees, added 1975 - 1990

B. Recommendations of the Peninsula Commute and Transit Committee

Figure 6 shows two routes presented for the Railway's consideration by the Peninsula Commute and Transit Committee (see Appendix D). These routes are:

Route 40A-Express Route

This route would be a modification of the existing Route 40-Commuter, encompassing a terminal at Bush and Montgomery Streets. This appears to duplicate the current service area of Routes 15/42. As noted in Section III, Routes 15/42 have available capacity during both Peak periods. This recommended route would not provide any improved access to the Lower Financial District. Field examinations also indicate that buses could be faced with maneuvering problem in attempting a left turn from Howard onto Hawthorne Street.

Route 40B-Express Loop

This would be a new commuter line that would provide service between the SP Depot and Lower Market Street. Field examinations indicate that return trips to the depot via Brannan west of Fourth Street could be delayed by motorists trying to reach I-280 via Brannan and Sixth Streets. Rush hour traffic on Brannan tends to back up as far east as the intersection with Fifth; cars wanting to cross Fifth are delayed, and this causes some difficulty in circulation at that point. The inbound route via Fremont and Front Streets also lies within the existing service need identified in Figure 3. Other features of this routing, however, are more fully discussed further on in this report. PCTC route 40B, while offering valuable suggestions for service improvement - and pointing the way towards better Depot access to and from the Lower Financial District, does not fully meet the conditions of adequate access.

C. Evaluation of Staff Proposals

To meet these conditions, a number of additional alternatives have been examined. Because they could form such a large number of possible combinations, alternative inbound and outbound routes examined are indicated separately in Figures 7 and 8. The alternatives were evaluated by their running time, for traffic conditions and general operability.

FIGURE 6

Routes 40A and 40B proposed by the

Peninsula Commute and Transit Committee

Inbound Alternatives (Figure 7)

Inbound (i.e. from the SP Depot to the Financial District) all alternatives considered entered the Financial District via Main, Drumm and Sacramento Streets, making the stops of the 41 line from Mission Street in, and looping via Front Street to a terminal at Clay. This routing maximizes access to the area identified as unserved in Figure 3.

Generally the problem inbound is to choose an east/west street south of Market to link the Depot to Main Street; as indicated by Figure 7, the streets considered were Folsom, Harrison, Bryant and Brannan. A principal objective was to eliminate interference from Bay Bridge traffic with operation of a new route. Checks conducted by the Planning Division staff lead to the conclusion that both Harrison and Bryant Streets are unsuitable because of this interference.

Harrison is a two-way street east of Third; at First Street it crosses, during the evening rush hour, a heavy southbound flow of traffic trying to gain access to the Bay Bridge. The on-ramp to the Bridge begins at First and Harrison, and although traffic on Harrison itself is not heavy, traffic slow-downs on the Bridge tend to back automobiles down the ramp, across Harrison and down the First Street hill. Staff observed the intersection completely blocked by bridge traffic on two occasions.

Similarly, Bryant Street presents traffic problems between Third Street and the on-ramp at Sterling Street, just east of Second. This on-ramp is heavily used by trucks serving the warehouses in the area south of the freeway, and also by automobiles from the area south of the freeway and east of Fifth Street. As the ramp is only one-lane wide and is a heavily used facility, back-ups of waiting vehicles occur; this back-up spreads onto Bryant and Second Streets on occasion and snarls the intersection.

As these conditions apparently occur frequently enough to pose a significant threat to the reliability of surface transit service, the Harrison and Bryant Street alternatives were dropped from further consideration, leaving the Folsom Street and Brannan Street proposals.

The Third-Folsom-Main route is direct, and, provided traffic does not interfere, would be a good route. Potential causes of traffic conflict are the complex of Pacific Telephone buildings on Third between Harrison and Folsom, and along Folsom east of Third; Bay Bridge traffic also uses

FIGURE 7

Inbound Alternatives Examined

Folsom and Essex Streets in the evening rush hour, and a potential conflict with bridge traffic, similar to though not as severe as that at First and Harrison, exists at First and Folsom.

Bay Bridge traffic can be completely circumvented by using the Brannan Street alternative and staying south of the bridge and freeway interchanges; this is a solution that was identified as being particularly attractive by the Peninsula Commute and Transit Committee, a conclusion in which the Planning Division staff concurs. The only problem with the use of Brannan Street is that, because of the curvature of the waterfront, it does not intersect Main Street, which is the desirable access street to the Financial District. As shown on Figure 7, it will be necessary to use either the Embarcadero or a First and Bryant jog to reach Main Street; both of these would have some disadvantages. The routing via the Embarcadero would involve fewer turns, but the turns would have to be made twice across a wide street which is, in the rush hour, heavily trafficked; as only a short block of Embarcadero would be used, these turns would have to be made in rapid succession. A routing via Townsend and the Embarcadero would probably be superior; this is the present route of line 32. The First and Bryant alternative would involve the use of a short, narrow section of Bryant Street between First and Beale; in this block, Bryant Street consists of two parts: a wide street on a descending viaduct, and a narrow street at ground level between the southern face of Rincon Hill and a postal service maintenance facility. There is a railroad track on the lower street, and it is, therefore, negotiable by railroad freight cars; the track, owned by Southern Pacific, is used by the railroad only in the early morning hours between midnight and 5:00 A.M., according to Mr. J. F. Bayes, SP Freight Terminal Superintendent, and rail operations thus pose no threat to bus service. A test of this street was made on May 20 with a Muni GM diesel coach, and the street was found to be operable. The final determination of operability, however, should be left to the Transportation Department. Turns on this alternative can be made without hindrance from traffic and this route does maximize the use of Main Street which is wide, one-way and comparatively fast.

It is recommended that the Brannan-First-Bryant-Main inbound route be used, pending the approval of the Transportation Department. If it is felt by that Department that Bryant Street from First to Beale is too narrow for transit use, then the Townsend-Embarcadero route is recommended as an alternative.

Outbound Alternatives (Figure 8)

Outbound (i.e. from the Financial District to the SP Depot) all alternatives considered left the Financial District via Davis and Beale Streets, making the stops of the 41 line from Clay to Mission. This routing maximizes the access to the area identified as unserved in Figure 3.

Generally, the outbound problem is to select an east-west street on which to operate between Beale and Fourth. As indicated by Figure 8, the streets considered were Howard, Brannan and Townsend. In this case, the selection of a street is an easier matter than in the inbound case. Of these the route via Beale, Brannan and Fourth is the best, although the other alternatives are workable.

Howard Street, though one-way, is close to the business district and handles the bulk of outbound through automobile traffic. Use of Howard could also require the use of a greater length of Fourth Street, which, though one-way, is characterized by heavy peak traffic flows. It is felt that maximization of the use of Beale Street would be superior to the use of Fourth as it is also one-way, it is not heavily used, it has a grade-separation at Harrison Street, and since volumes of traffic crossing at all intersections are much lower. Avoidance of Howard Street would also eliminate the route's intersection with New Montgomery, which is signalized and has a lot of traffic that merges into Howard.

As between Brannan and Townsend Streets, the use of Brannan Street makes it possible to avoid cutting in and out of Embarcadero traffic, and also makes it unnecessary to cross the five Belt Railroad tracks at this point. The right turn from Beale into Brannan is clear of Embarcadero traffic and the railroad tracks, and can be made easily. The left turn onto Fourth Street poses no problem in either case; the route via Brannan is currently used by lines 15 and 42.

D. Recommended Routing

It is recommended that the route indicated in the solid lines in Figure 9 be operated on an express-service and express-fare basis in both directions.

The line should originate at a terminal on Fourth Street in front of the SP Depot (see Section V for recommended location), and operate inbound via fourth, King, Third, Brannan, First, Bryant, Main, Drumm, Sacramento, Front and Clay Streets to an inner terminal on Clay Street between Front and Davis. Inbound stops can be made at line 41 stops at Mission, Market, California and Drumm, Sacramento and Drumm and Sacramento and Davis.

FIGURE 8

Outbound Alternatives Examined

FIGURE 9

Recommended Routing

Outbound the line should operate from the inner terminal via Clay, Davis, Beale, Brannan and Fourth Streets to the outer terminal at the Depot. Outbound stops can be made at line 41 stops at Sacramento, California, on both sides of Market Street and at Mission Street.

If the Transportation Department feels that the stretch of Bryant Street between First and Beale is not suitable for operation, the inbound route should be revised to be operated via Fourth, King, Third, Townsend, Embarcadero, Main, Drumm, Sacramento, Front, Clay to inner terminal.

It is recommended that the proposed new line load on the Fourth Street side of the Depot to avoid confusion with the existing 40 line. In order to do this, it will be necessary to establish more readily identifiable and clearly separated bus stops along Fourth Street to avoid confusing the new line with the 32 line, which also carries good commuter loads. If necessary, the part of the Fourth Street frontage broken for access to the taxi stand can be reclaimed for transit use; the stands are apparently not being used at the present time by taxis (which seem to prefer the 15/42 stop in front of the Depot). Consideration should be given to covering the open area between the Depot structure and the reclaimed taxi stand. This area is now used by queueing 32 line passengers, and would also be used by passengers for the proposed new line. It is badly exposed and offers no protection from the weather.

E. Recommended Service Levels

Tests conducted on May 20 with coach 3108 on the recommended route show that the outbound trip can be made in 11 minutes, and the inbound trip in 8. Figure 10 shows an example morning schedule for the proposed line, with provision for a coach to meet every arriving train from 7:15 to 10:05 A.M. The schedule calls for 14 trips, and requires four coaches.

These coaches would be deverted from present line 40-Commute service. Such a diversion is feasible because of reduced patronage on line 40, and since the new service will probably divert some additional patronage away from the existing route. Possible runs to be diverted would be: (1) 52 @ 14G, (2) 67 @ 14X, (3) 72 @ 14X, (4) 79 @ 14X. This diversion would reduce morning trips on the 40 line by 11 from 38 to 27; an acceptable level. Similar changes would be made in the evening rush hour.

FIGURE 10

EXAMPLE SCHEDULE (A.M. PEAK)

SP Train	Muni Run	Leave Depot	Clay & Front Arr. / Lv.	Depot Arr. / Lv.
715	1 a	715	726 / 727	735 / 745
735	2 a	735	746 / 747	755 / 805
745	1	745	756 / 757	805 / 809
755	3 a	755	806 / 807	815 / 817
800	4 a	800	811 / 812	820 / 823
805	2	805	816 / 817	825 / 827
809	1	809	820 / 821**	
813	3	817	828 / 829	837 / 840
820	4	823	834 / 835	843 / 850
	2	827	838 / 839**	
840	3	840	851 / 852**	
850	4	850	901 / 902	910 / 918
918	4	918	929 / 930	938 / 1005
1005	4	1005	1026 / 1027**	

a: from 14X, 14G

It should be emphasized that this timetable is an example and for the purpose of illustration only; actual timetables would be developed by the Schedule Department.

F. Cost-Offset

As indicated, it is proposed that the vehicle hours used to operate a new line for the benefit of Peninsula commuters be cut from the service hours on the existing line 40-Commuter. There would be no net increase in vehicle hours operated on commuter routes.

In the absence of a definitive schedule, it is difficult to estimate accurately the cost of the proposed service and the cost-offset of the concurrent reduction in service to Peninsula commuters on line 40. In very rough terms, it appears that the proposed transfer of vehicle hours is on the order of 3 hours in the morning, and 2-1/3 hours in the afternoon, a total of only 5-1/3 vehicle hours per day, a relatively minor amount.

All service on line 40-Commuter is currently provided by motor coaches which do rush-hour work on other lines, principally the Mission limiteds and expresses. No vehicles, therefore, are used exclusively for 40-line service, and the addition or deletion of service on that line does not involve an increase or decrease in the number of rush-hour vehicles deployed by the Railway; 40-line service adjustments are principally a matter of the marginal savings or expense of cutting or adding mileage to the schedule of a vehicle that is already in service and for which the major operating and capital expenses have already been incurred.

It must be emphasized that the proposed new line does not involve any net increase in operating cost to the City; all costs of the service will be covered by a "transfer" in reduced operating costs for line 40. If one were to take a marginal hourly operating cost, for service with these characteristics, of $19.00 per hour, then a theoretical value of this "cost transfer" would be approximately $100 per day, or roughly $26,000 per year.

As it is proposed that the line operate on an "express" basis in both directions, and as it is expected that the line will be well-used, it is anticipated that revenues should be relatively good on this service. In fact, for a short-haul, high average revenue line of this kind, with a relatively low marginal cost, it is conceivable that the proposed service will experience a generally good revenue/cost coverage.

V. Improvements in Operations, Passenger Handling and Fare Collection

A. Route 19-Polk

As noted, the Peninsula Commute and Transit Committee made a number of specific comments relative to the operation of this line, which links the Depot with Civic Center - a major employment center (Appendix B). These comments are taken in the order presented.

"Morning Commute"

1. The departure time of the connecting bus for the 6:25 arrival of train #113 has already been adjusted to 6:27 to improve connections.

2. Similarly, train #117, arriving at 7:35, now connects with a Civic Center bus which leaves at 7:37.

3. Train #119 arrives at 7:45; the connecting 19 line departure leaves at 7:50. At this time of the morning, the running time to the northern part of the Civic Center employment area, Golden Gate Avenue, is 13-1/2 minutes. Consequently, passengers using this train/bus combination do arrive at Civic Center at about 8:02 - 8:03-1/2.

As most jobs in this area begin at 8:00, it is true that the overall service is not optimally designed. In order to ensure an optimal arrival of commuters at Civic Center, this bus should arrive approximately 5 minutes earlier, requiring a departure from the Depot at 7:45 instead of 7:50. As this bus is a pull-out from Kirkland Division, Muni would not have an operating problem with such a schedule adjustment. However, this departure time would conflict with the scheduled arrival time of train #119 - also 7:45. It is proposed, therefore, that Southern Pacific consider revising the schedule of train #119 to have a 7:42 arrival, permitting a 3-minute transfer period to the #19 bus that will get Civic Center passengers to work by 8:00.

4. Trains #125 and #127 arrive at 8:05 and 8:09 respectively; their connecting 19-line bus to Civic Center leaves the Depot at 8:09 - a very close connection in the case of the latter train. As the next bus does not leave until 8:18, it would be advisable to re-schedule its departure to 8:10, and to "flag" this trip to be held by the inspector up to 2 additional minutes to ensure the train connection is made.

"Evening Commute"

1. Train #122 the 4:15, is met by a 19-line bus (run number 13) which leaves Beach and Powell at 3:39 and Hyde and Golden Gate at 4:00; Depot arrival is at 4:11-1/2. The 4:00 timing at Civic Center is a bit too early for those federal workers who are on an 8-4 shift. It is recommended that this trip be re-scheduled to leave the northern terminus at 3:41 instead of 3:39, so as to pass through the Civic Center area at 4:02-4:04, and reach the Depot at 4:13-1/2. In order to ensure a reliable connection, it would also be advisable for the Southern Pacific to re-schedule the departure of train #122 from 4:15 to 4:17.

2/3. The 19-line trip referred to by the Peninsula Commute and Transit Committee as the "4:57 bus" is probably the 4:37 departure from Beach and Powell (run number 17), due at Hyde and Golden Gate at 4:58. In order to rectify the on-time performance problem identified by the Committee, to provide a bus that can be used by State employees working a 9-5 shift, and to more evenly space the service on Polk Street, some minor schedule revisions are recommended.

It is proposed that the southbound departures of line 19 from Beach and Powell be revised from 4:30, 4:33, 4:37, 4:45, 4:53, 5:00 to 4:30, 4:35, 4:41, 4:47, 4:52, 5:00. This will result in a Depot bus passing through the Civic Center area at approximately 5:02-5:03, meeting the early Peninsula expresses, and 5:13-5:14, meeting the last express. Operators' paddles on these trips should be "flagged" to indicate that they should wait on time at Hyde and Golden Gate to ensure adequate connecting service to Peninsula trains.

B. Route 32-Embarcadero

As indicated previously, some problems do occur on this line, and have been noted by patrons and by an official of the Southern Pacific (Appendix C). Checks conducted by the traffic checking staff, supplemented by observations of the planning staff, do lend some support to these statements.

Between 4:40 and 5:10 P.M., approximately , a long queue of Depot-bound passengers forms at the Market Street stop; the line regularly reaches 150 persons in length, and extends west from the stop across Justin Herman Plaza to Steuart Street, and south along the east sidewalk of Steuart towards the Muni terminal loop. Most of these passengers are trying to reach the five express trains which have departures beginning at 5:14. However, some are destined to the two preceding

local trains (4:50 and 4:55), which have staggered stops on the Peninsula; passengers to northern Peninsula and mid-Peninsula points who fail to reach these trains on time face up to a half-hour delay in getting home. It is therefore important that passengers arriving at the stop before 4:40 be served with buses that reach the Depot by 4:50; it appears that runs 4 and 7 meet this requirement and it is important that in the event that a shortage of vehicle or manpower should occur, that these runs not be among those sacrificed. Checks should be conducted regularly to ensure that passengers destined for the 4:50 and 4:55 trains are able to board buses on these runs.

After about 4:50 P.M. the accumulation of passengers for the express trains lengthens the queue more rapidly than 32-line buses can load passengers and leave. The problem, therefore, does not appear to be an inadequate supply of buses, but rather the speed with which loading occurs. At present, the long queue loads single-file into waiting buses, even though second buses often stand by, waiting to pull up to the stop and load.

To help ameliorate this situation, it is recommended that a double-length stop be established at this point with painted, pedestrian guide lines on the sidewalk to encourage simultaneous two-coach loading during the peak rush. This system would operate similarly to the queueing arrangement employed by many banks to ensure first-come, first-served access from a single queue to numerous service windows.

It is also felt that the new Lower Financial District-Depot shuttle, recommended elsewhere in this report, will result in an improvement of the loading situation at the Embarcadero and Market Street.

C. Depot Loading Arrangements

The new Southern Pacific Depot at Fourth and Townsend Streets opened in June, 1975. A relatively small facility, it replaced the larger, 60-year-old Third and Townsend Depot.

The new depot has an attractive open design, adequate to serve the present mid-day, evening and weekend passenger loads on Peninsula trains. However, the structure is not large enough to efficiently accommodate the existing peak loads with comfort; it appears to have been designed with lower passenger volumes in mind.

Members of the Planning Division staff have observed morning and evening rush-hours operations at the Depot on several occasions and under varying climatic conditions; problems seem to be most severe in the morning, maximum difficulty being experienced around 8:00 with the arrival of several heavily-patronized trains at 4 to 5 minute intervals. While the old station had an ample concourse which afforded sufficient space to passengers queueing for the 40-line, the new depot is unable to provide a similar level of service to rush-hour patrons. The general arrangement of bus stops, with the exception of those for the 30-Stockton and 32-Embarcadero, is the same as at the former site. As before, passengers leaving trains walk east along the platforms to the concourse, and then turn left to walk north along the concourse to the 40-line stop at Townsend Street (Figure 11). However, the restricted dimensions of the new concourse result in a considerable pedestrian confusion between the long 40-line queue, which extends down to about Track 6 or 7 and the movement of arriving passengers which is perpendicular to the queue.

In order to resolve this difficulty, and, in addition, to speed loading of 40-line coaches, it is proposed that a pre-paid boarding zone be established on the presently unused sidewalk area along Townsend Street west of the Depot structure (Figure 12). A queueing zig-zag would be installed in this zone in order to accommodate more of the 40-line queue in what is now unutilized space, and thus shorten or eliminate the present extension of this queue south into the concourse; the conflicting cross-movements in the concourse would thus be considerably reduced, and pedestrian congestion relieved. This relief could be made even more effective if the Southern Pacific would ensure that the 5 trains arriving between 7:55 and 8:13 come in on southernmost tracks 8 through 12. Further relief would also result from implementation of the proposed new route, which would load at the Fourth Street front of the Depot.

A Municipal Railway loader would be stationed at the entrance to the zig-zag, and passengers would pay their fare as they entered it. Buses would pull up to the new loading zone, both doors would be opened and passengers could load quickly with no necessity of on-board fare collection, a principal source of delay. Once fully loaded, the doors would be closed and the bus would leave. As buses deadhead back to the Depot, and since there is no other on-line business, 40-line operators would thus be completely relieved of fare collection duties in the morning rush-hour. The pre-paid zone would have to be covered to protect waiting passengers from the weather.

FIGURE 11

Arrangement of
Passenger Transportation
Facilities at
Fourth and Townsend Streets

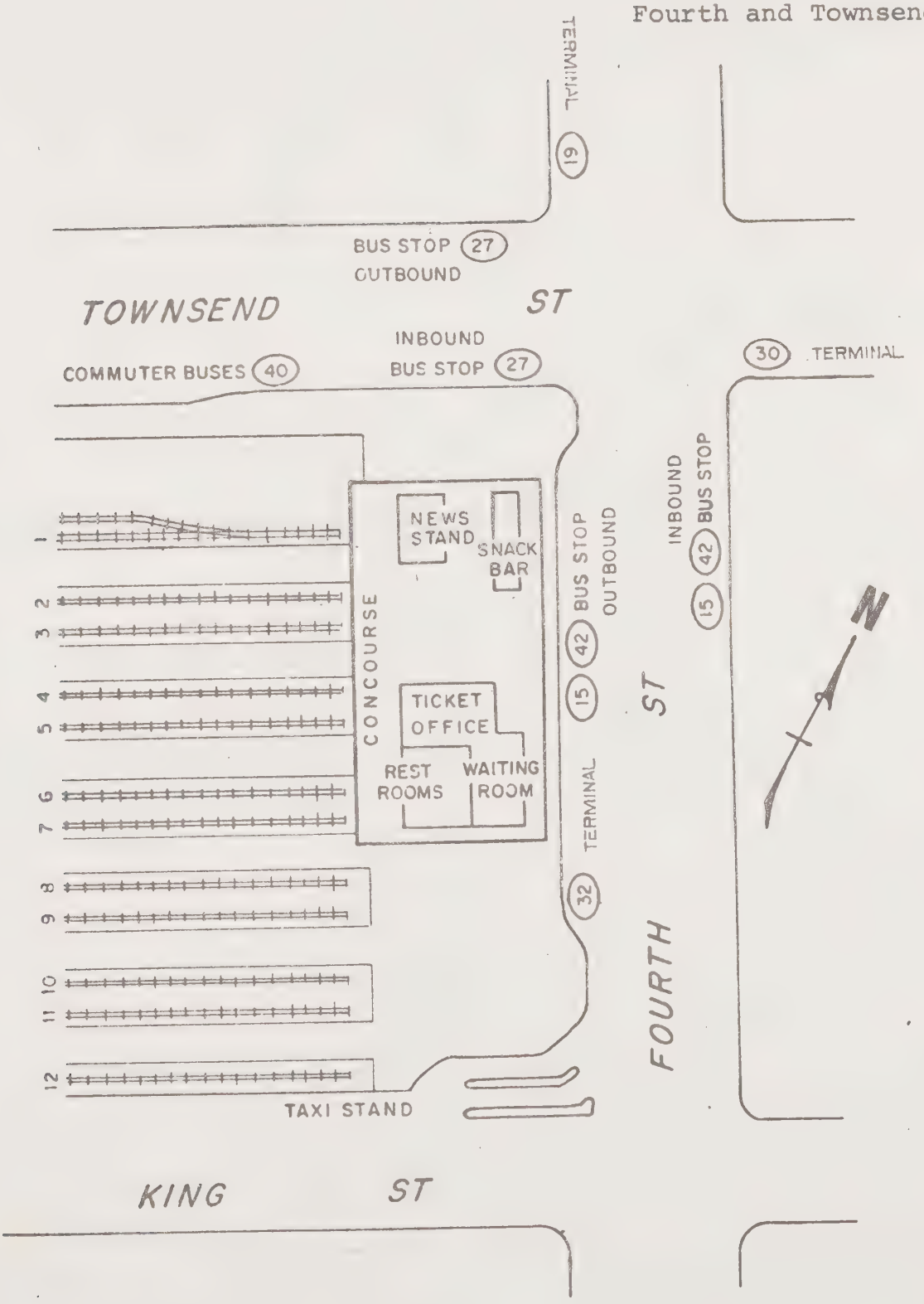
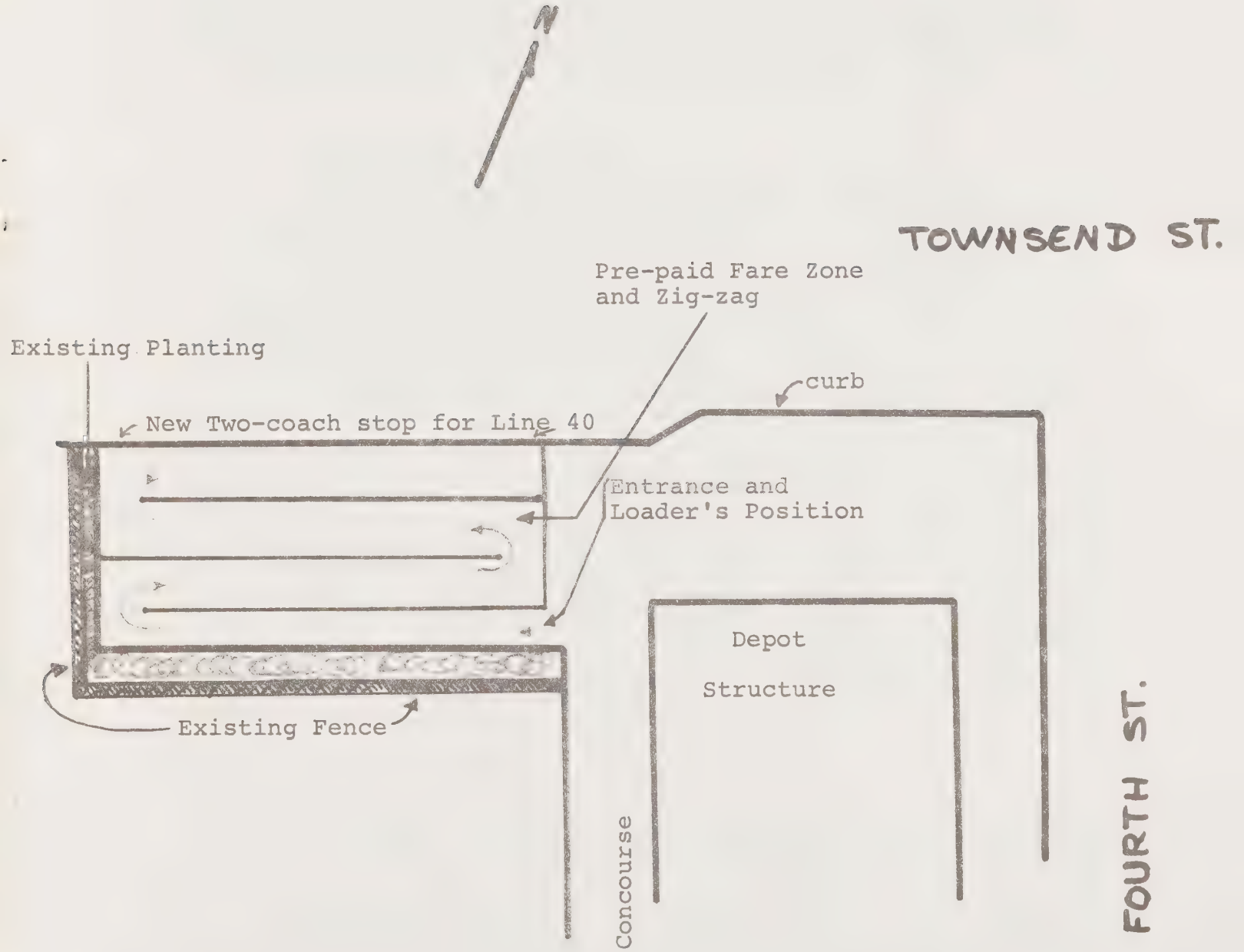


FIGURE 12

Schematic of Proposed Pre-paid Fare Zone for Line 40 Patrons at Fourth & Townsend Sts.



Once the proposed new route is in operation, queueing conditions for its passengers should be observed closely. The addition of this route should result in a reduction in length of the 32-line queue, which now backs up onto the platforms. If it fails to achieve this result, or if increased usage of Southern Pacific service and related Depot bus services should occur, passenger handling methods similar to those proposed for line 40 may be required.

D. Marketing Agreements

Further refinements of the proposed loading procedures at Fourth Street are possible if a greater use of Fast Passes is made in order to speed queue entry. It is recommended, to begin with, that Fast Pass sales outlets be established at the Fourth Street Depot and at the principal Southern Pacific stations on the Peninsula with daytime office hours (South San Francisco, Millbrae, Burlingame, San Mateo, Redwood City, Palo Alto, Santa Clara, San Jose). An arrangement with Southern Pacific should also be pursued whereby the automatic "Ticket-by-Mail" scheme would include a Fast Pass purchase option. In the longer run, a single, two-system pass option (available for the price of a Southern Pacific monthly ticket plus the price of a Muni Fast Pass) could prove most attractive. It is in the Municipal Railway's interest to promote the purchase and use of Fast Passes by Peninsula commuters to speed bus loading, to reduce cash transactions by Depot loaders and bus operators, to encourage mid-day transit use by commuters, to provide a more attractive "transit package" for a sensitive middle-class travel market, to ensure more regular patronage of Depot lines, and to promote an early-in-the-month flow of income into Railway coffers.

E. Outer Stations

Some Southern Pacific trains make stops at three other stations located in the Municipal Railway's service area: 23rd Street, Paul Avenue and Bayshore (see timetable, Appendix E).

23rd Street Station is located in a cut in the east slope of Potrero Hill, underneath the I-280 freeway. It is served by six northbound and six southbound trains, generally during the rush hours. The station structure formerly located here is now gone, it presumably being considered that the overhead freeway structure affords adequate weather protection. Municipal Railway routes do operate within a few blocks, but none serve the station directly. Because it is not on an established route, because of the topography - which prohibits direct access from the west, where most of the City lies in relation to this station, and because the Third Street corridor serves the SP at Fourth Street, no service changes are recommended for this station at this time.

Paul Avenue Station, a small passenger shelter, is served by four northbound and three southbound rush-hour trains; weekend service is less generous. Like 23rd Street, it is located near the Third Street lines, but is is also served directly by Route 81-Bacon-Fitzgerald.

The 81 is presently a short shuttle route serving the southern Bayview and University Mound Districts, linking them to radial trunk lines on San Bruno Avenue and Third Street; any service it may now be rendering to Southern Pacific patrons is certainly minimal and entirely incidental. However, as part of the BART/Muni coordination package, line 81 is to be extended west through the Excelsior District to Mission Street, and thence via Ocean, San Jose, Geneva and Plymouth Avenues to Balboa Park, BART, City College and the Ingleside and Ocean View Districts. Though not a major trunk line, the extended 81 will definitely be of greater importance than its present configuration, and would offer connections with several major trip generators and other principal Municipal Railway lines. Its value as a feeder to the Southern Pacific will, therefore, increase.

It is, therefore, proposed that in addition to the present rush hour trains serving Paul Avenue, that the mid-day, reverse direction, evening and weekend local trains stop there as well. As many trains as possible should use the station, as the marginal cost of adding a stop would be slight; there is no apparent reason why all trains except the rush hour expresses should not stop at Paul Avenue. If this is done, it may be possible for the Municipal Railway to make some schedule adjustments to the new 81 line to provide for better connections, particularly to the west. It would be of particular help to the development of patronage at this facility if the Southern Pacific could then carry a notation in its schedules advising patrons of the availability of the connecting transit service.

If the proposal to have all local trains stop at Paul Avenue can be implemented, then it is recommended that the Municipal Railway relocate the inner terminus of the Candlestick Park shuttle from Third and Keith to the Paul Avenue Station. This would create a direct service to Candlestick Park sports events for SP patrons, and would enable Peninsula residents to easily reach the stadium without having to use their automobiles.

Bayshore Station is located at the southern boundary of San Francisco, near the point at which the Southern Pacific tracks cross into San Mateo County; an old and rudimentary passenger shelter is located at this stop. The station is served by ten northbound and eight southbound weekday trains, some of which are non-rush hour trains; there is also some weekend service. The higher level of service at this station may reflect the use of Southern Pacific trains by railroad workers employed at the adjacent Bayshore Yards.

Bayshore is not directly served by any Municipal Railway line, but Route 29-Visitacion, a neighborhood shuttle, is located about 1200 feet from the station. Major Muni lines do operate in the general area, but they are situated to the north and west, separated from the station itself by the wide expanse of the railroad yards and by the hill which rises abruptly from the track level.

Because of the situation of the station, and the minor nature of Route 29, no short-term changes are proposed for Bayshore Station. However, it is recognized that Bayshore could be of strategic importance as a passenger interchange in any longer-term strategy involving a major upgrading of service on the Peninsula rail line.

F. SP-Users Guide

A major difficulty in successfully upgrading local transit access to SP service, in San Francisco as well as on the Peninsula, is the lack of a single source of information for potential users of the service. The division of what passengers should perceive as a unified system into four different agencies (Muni, SP, San Mateo and Santa Clara Transit Districts) makes it difficult for a patron to determine whether or how to use SP for a corridor transit trip.

As MTC is the only transportation agency which transcends these jurisdictional barriers, and since it is the agency though which regional transit coordination is to be accomplished, it is recommended that MTC publish a complete "Users Guide" to Southern Pacific Peninsula Service which would include full information on transit access in all three counties. This guide should be widely distributed by MTC, by a mass mailing on the Peninsula if possible, and, if not, at least by a heavy distribution in downtown San Francisco employment centers. Local transit operators in the three counties should keep the "User's Guide" in stock for distribution with their timetables, and make information available through their telephone information services.

APPENDIX A

File Copy Do Not Remove

FILE NO. 338-75-1 RESOLUTION NO. 670-75

ISSUING A POLICY STATEMENT ENCOURAGING THE USE OF REGIONAL PUBLIC TRANSIT AS THE PRIMARY MEANS TO PROVIDE ACCESS TO SAN FRANCISCO FROM THE BAY AREA AND THEREBY AID IN THE GROWTH AND EXPANSION OF JOBS AND ECONOMIC WELL-BEING FOR THE CITY AND THE BAY AREA.

WHEREAS, Access to downtown San Francisco is particularly important to the Bay Area, the State of California and the entire West because of its role as a major commercial and employment center; and

WHEREAS, The continued growth and expansion of jobs, vital to the economic well-being of San Francisco and the entire Bay Area depends on effective home-to-work transportation; and

WHEREAS, The provision of transportation access to employment for San Francisco residents has long been the recognized responsibility of the City but access to employment in San Francisco from surrounding communities is properly the responsibility not only of San Francisco but also of the region as a whole and of the individual counties which contribute to the transportation need; and

WHEREAS, The requirements for transportation must be met in such a way as to minimize adverse impact on the residents of San Francisco, maintain the residential integrity of neighborhoods and reduce "through" automobile traffic, congestion and pollution in residential neighborhoods as well as in the downtown, and these requirements have led to the adoption by this Board of Supervisors of resolution 189-73, supporting a transit first policy for the City; and

WHEREAS, Regional transit systems offer a means for regional access to San Francisco from surrounding communities with potentially the least disruptive effect on the quality of life in the City and with the greatest cost efficiency and energy efficiency; and

WHEREAS, In recognition of these transportation requirements, it is the policy of the San Francisco Master Plan that regional public transit be developed and given priority as the primary means of transportation to and from downtown, particularly for commuters, and that the existing vehicular capacity of the bridges and highways entering the City not be expanded and be reduced where possible; and

BOARD OF SUPERVISORS

WHEREAS, Regional transit vehicles on the main regional access routes approaching San Francisco from any direction should avoid travel on San Francisco residential and major downtown streets, wherever possible; and

WHEREAS, The determination of means to satisfy the transportation requirements for home-to-work trips so as to protect San Francisco residential neighborhoods is a proper concern for joint resolution between local and regional entities involved; and

WHEREAS, The citizens of San Francisco have made major commitments and formidable contributions to local and regional public transit, and it is important that regional entities assure that the costs of regional transportation be shared in a logical and equitable manner by all members of the Bay Area community; and

WHEREAS, It is recognized that geography and history may provide San Francisco with limited choices and resources concerning regional access, so that more ideal solutions may not prove realizable immediately for financial or other reasons; and

WHEREAS, It is thus recognized that interim regional access transportation solutions may be adopted and that these interim solutions should be of a nature to best utilize existing resources such as by the provision of preferential transit treatment on the bridges and highways leading into the City; now therefore, be it

RESOLVED, That the Board of Supervisors of the City and County of San Francisco does hereby provide that it shall be the policy of the City and County of San Francisco to encourage the use of public transit for its own residents, for non-residents and for visitors and to support the kind and quality of public transit most attractive to the greatest number of people and thereby reduce the need for automobile travel in residential neighborhoods and in the downtown.

SUPERVISOR DIANNE FEINSTEIN

BOARD OF SUPERVISORS

SEP - 8 1975

Adopted—Board of Supervisors, San Francisco.....

Ayes: Supervisors Barbagelata, Feinstein, Francois, Gonzales, Kopp, Mendelsohn, Molinari, ~~Nelder~~, Peloni, Tamaras, von Beroldingen.

~~Noes: Supervisors~~ .....

Absent: Supervisors NELDER

I hereby certify that the foregoing resolution was adopted by the Board of Supervisors of the City and County of San Francisco.

Margaret J. Maguire
ACTING Clerk

338-25-1
File No.

SEP 11 1975
Approved

Joseph L. Alioto
Mayor

APPENDIX B

CIVIC CENTER BUS TRANSPORTATION FOR SP COMMUTERS: RE. #17 BUS

(Peninsula Commute & Transit Committee)

Main recommendation: Muni and SP schedule makers should meet and coordinate schedules. At present it appears that each sets their schedule independently; sometimes the schedules fit, and sometimes they don't.

Specific recommendations:

I was not able to get a copy of the revised muni schedule after the station move. The former schedule lists times when the buses are due at ~~Market~~, but not when they are due at civic center, so the figures in my discussion are an extrapolation from the muni schedule.

Morning commute:

1. Train #113 arrives at 6:25 A.M.; the bus leaves at 6:25. This is insufficient to allow passengers to catch the bus unless the driver is instructed to wait.

2. Train #117 arrives at 7:35; a bus leaves at 7:34 . A slight delay would allow this bus to pick up train passengers instead of leaving empty.

3. Moreover, if the passengers on #117 and #119 received prompt bus service, they would arrive at civic center by 8 A.M. when many must begin work. At present the bus gets them to a stop about 8:02.

4. Train #127 arrives at 8:09. A bus leaves at 8:08--too early for passengers from this train--and the next bus does not leave until 8:17. A short delay in the 8:08 bus could accomodate these passengers.

5. Other buses are fine if the train is on time. The drivers, however, usually do not wait even a minute or

two to accomodate late trains. Drivers who routinely carry passengers from a particular train could be instructed to wait a maximum of 2-3 minutes when the train is later.

Evening commute:

1. Some federal workers work an 8-4 shift. A bus leaves civic center area about 3:58; if it were delayed until 4:03 or so these workers might be able to make the 4:15 train.

2. Buses are scheduled to leave civic center at about 4:44, 4:50, and 4:57, and reach the depot in time for the 5:14 train. This is a good schedule but not often followed. Typically the 4:50 and 4:57 buses, picking up fewer passengers, catch up to the 4:44 bus, and the whole lot passes the stop before 4:50; it is an unusual day when any SP bus passes between 4:50 and 5:10. The driver of the 4:57 bus should be instructed to keep on schedule.

3. Although many state employees work 9-5, no bus is scheduled to leave civic center area between 5 and 5:13. The 5:13 bus arrives at the station at 5:26, just as the last express commute train leaves. A bus needs to be added to leave civic center about 5:04 or so.

4. Traffic between civic center and the depot is not heavy enough to call for express bus lanes. I understand, however, that heavy and unpredictable traffic on Polk is responsible for the erratic timing of the evening buses. Perhaps one SP bus could initiate its run at the civic center area (the 4:50 bus might be a good choice).

APPENDIX C

Southern Pacific
Transportation Company

One Market Street • San Francisco, California 94105 • (415) 362-1212

IN REPLY PLEASE REFER TO

G. V. HOUSMAN
MANAGER COMMUTE TRAFFIC

July 1, 1976 CS: 925-1

Mr. James Finn
Director of Transportation
San Francisco Municipal Railway
949 Presidio
San Francisco, CA 94115

Dear Mr. Finn:

Muni service at our Fourth and Townsend Street commute station appears to be handling the traffic adequately with the exception of the No. 32, Embarcadero Line.

We are handling many more commuters having offices in the Embarcadero Center buildings, One Market Plaza, and other new centers, who are now using your No. 32 buses to and from the Market Street stop.

In the mornings the line of commuters waiting for the No. 32 bus, at times, backs way up across the station plaza, across the concourse, and even into the train loading platforms, causing much congestion from passengers arriving on later trains spaced 04" or 05" apart.

In the evenings the bus service leaving the Embarcadero and Market Street stop seems to be concentrated around 5:00 PM, which is close for our fleet trains, with a lack of bus service between 4:35 and 4:55 PM, and long lines of commuters anxious to catch the fleet trains. Possibly the service might be adjusted to provide convenient connections with our fleet trains leaving at 4:15P, 4:40P, 4:50P, 4:55P, 5:14P, 5:17P, 5:20P, 5:23P, 5:26P, 5:45P, 6:00P, etc. Have noted deadheading buses passing this point which appear to be heading for Fourth and Townsend Streets to begin their runs. I believe that these are the #19 and #31 buses. Possibly they might be utilized in revenue service to the depot.

Would appreciate your review of the changed pattern at this lower end of Market Street.

Yours very truly,

G. V. Housman

cc: Mr. Thomas Matoff
Head Planner
San Francisco Municipal Railway

NORTH BEACH
RUSSIAN HILL
NOB HILL
CHINATOWN
Coolbrith Park
Helen Wills Playground
Cable Car Barn and Power House
Chinese Recreation Center
Grace Cathedral
Fairmont Hotel
Calif Masonic Mem. Temple
St Francis Hosp
YWCA
YMCA
Union Square
St Francis Hotel
Gump's
Saks Fifth Ave
City of Paris
Livingston Bros
Lotta's Fountain
Sheraton Palace Hotel
Macy's
I. Magnin
J. Magnin
Gradins
Roos-Atkins
Airlines Term
Cable Car Turntable
The Emporium
Old U.S. Mint
Post Office
Greyhound Bus Depot
Del Webb's Townehouse
Hotel
Holiday Inn Civic Center
Calif State Auto Ass'n
Fox Plaza
San Francisco Conv and Visitors Bureau
Western Furniture Mart
Board of Education
Health Center
CIVIC CENTER
City Hall
Plaza
Brooks Hall
Library
Hastings Coll Of Law
Columbus Tower
Old Transamerica Bldg
New Transamerica Bldg
Portsmouth Square
Chinese Playground
Old St. Mary's Church
St Mary's Square
Bank of America World Hdqt
Chinatown Gateway Arch
San Francisco C of C
Pacific Coast Stock Exchange
Standard Oil Plaza and Mus.
Calif State C of C
Jackson Square
U S Customs
Golden Gateway Center
U S Appraisers Bldg
Sidney Walton Park
World Trade Center
Ferry Building
Heliport
Cable Car Terminal
Rincon Annex PO
Transbay Transit Terminal
South Park
Columbia Square
Hall of Justice
SAN FRANCISCO SKYWAY
SP CC Depot
Foreign Trade Zone
THE EMBARCADERO
101 CENTRAL FREEWAY
Railroad Yards
Santa-Fe Yard
China
MISSION ROCK ST
EL DORADO ST
MARKET
MISSION
HOWARD
FOLSOM
HARRISON
BRYANT
BRANNAN
TOWNSEND
KING
BERRY
CHANNEL
STOCKTON
POWELL
MASON
TAYLOR
JONES
LEAVENWORTH
HYDE
LARKIN
POLK
VAN NESS AVE
MONTGOMERY
KEARNY
GRANT
SANSOME
BATTERY
FRONT
DAVIS
CALIFORNIA
PINE
BUSH
SUTTER
POST
GEARY
O'FARRELL
ELLIS
EDDY
TURK
GOLDEN GATE AVE
MC ALLISTER
FULTON
HAYES
BROADWAY
PACIFIC AVE
JACKSON
WASHINGTON
CLAY
SACRAMENTO
VALLEJO
GREEN
UNION
FILBERT
COLUMBUS
FIFTH
SIXTH
SEVENTH
EIGHTH
NINTH
TENTH
ELEVENTH
TWELFTH
THIRD
FOURTH
SECOND
FIRST
SPEAR
STEUART

KEY TIMES: (Initial assumptions without present ridership checks)

a.m. -- 6:30; 7:25; 7:40; 7:50; 8; 8:15; 8:30; 8:55 (?)
(from 4th & Townsend)

p.m. -- 4; 4:30; 5; 5:10; 5:30; 5:50 (from CBD)

Note: In a.m. the buses wait for trains, then fill and move out. In p.m. the trains wait for these buses.

KEY CONSIDERATIONS & INGREDIENTS:

- Cooperation of the MUNI staff and support of Curtis Green, MUNI General Manager, and John D. Crowley, San Francisco P.U.C.
- Operation costs not covered by fares (perhaps a subsidy of @ 25-40% -- non-driver operating cost will be @ 40¢ per mile).
- Approval of the San Francisco Public Utilities Commission.
- Approval of the Board(s) of carriers suppling vehicles.
- Cooperation of the various Transit Unions and jurisdictions.
- Support of the San Francisco Board of Supervisors.
- Perhaps approval of ISCOT (an inter-departmental traffic coordinating committee in San Francisco) and thus also the cooperation of the San Francisco Department of Public Works (and the Police Department).
- Backing of San Francisco Civic and Neighborhood groups.

INITIAL STEPS:

- M.T.C. Staff provide overall coordination.
- San Francisco MUNI initiate their internal "Depot Committee" and assemble results of traffic checks of Nov. 5.
- Secure endorsement of the San Mateo Transit District Board and involve the Santa Clara Transit District.
- Secure input from Golden Gate Transit and A.C. Transit regarding feasibility and costs, etc.
- Secure support of Curtis Green and John Crowley.
- Arrange talks with Transit Unions, San Francisco Board of Supervisors, San Francisco P.U.C. Commissioners.
- At the same time secure support of San Francisco Civic and Neighborhood Groups, Bay Area Council, P.M.A., businesses, etc.
- Keep San Francisco Planning Department informed and touch base with the Department of Public Works early.
- Make formal presentation to San Francisco P.U.C. for approval.
- Secure final approval of the Board(s) of any other carriers involved.

by: Carl A. Smith, c/o P.C.&T.C., 321-9675

APPENDIX D

SP/MUNI INTERFACE & CONNECTIONS TO THE SAN FRANCISCO CBD:

STEPS FOR AN INTERIM SOLUTION

(Peninsula Commute and Transit Committee)

DISCUSSION DRAFT
##################

GOALS:

1. This side of a longer range solution for the SP's San Francisco Terminal (Trans-Bay Terminal or San Bruno Branch), facilitate smooth and rapid connections between the SP depot at 4th and Townsend and the San Francisco CBD, taking into consideration the newer high-rise office buildings in the lower Market Street and Embarcadero Center areas.
2. Facilitate greater use of transit in the West Bay Transit Corridor through use of existing resources, mitigating vehical traffic impact on San Francisco originating from the Peninsula and South Bay.

PROPOSED EXPRESS ROUTES: (from 4th & Townsend to CBD & back)

40 A EXPRESS LOOP -- MODIFICATION OF EXISTING 40 COMMUTER:

Townsend St. - Third - into Kearny - Bush - Montgomery - New Montgomery - Hawthorne - Harrison - Fifth - Townsend.

Stops: Market, Bush, Sutter (?)

40 B EXPRESS LOOP -- NEW COMMUTE LINE

Townsend St. - Second - Harrison - Fremont - into Front - Clay (Embarcadero Center) - Beale - Brannan (at Embarcadero) - Fifth - Townsend.

Stops: Mission, Market, Sacramento (?)

POTENTIAL EQUIPMENT:

First Alternative -- Shift MUNI equipment and drivers from other "commute" lines and/or under utilized lines.

Second Alternative -- Utilize equipment and drivers of Golden Gate Transit or A.C. Transit which arrives in San Francisco in time to facilitate such express loops and which is not required for Golden Gate or A.C. Transit service for a significant period of time.

FARE COLLECTION POTENTIAL:

Rapid movement of people on and off such buses (especially single door buses) would need to be created. Pre-paid loading islands would be one approach. Another might be the sale of $11 MUNI FAST-PASS to regular SP users, since this service is limited to traffic to and from the SP depot.

APPENDIX E

SAN JOSE TO SAN FRANCISCO

MONDAY THROUGH FRIDAY EXCEPT HOLIDAYS (See Note a)

Miles	Zone No.	Train Numbers	113	115	117	119	121	123	125	127	129	131	133	135	137	139	141	143	145	147	149	151	153	155
			A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.
0.0	6	Lv San Jose	5 05	5 43	6 13	6 15		6 43	6 50	6 55	7 00	7 04	7 17	7 35	8 00	8 52	10 10	11 30	12 15	2 55	3 48	5 20	7 20	10 00
1.2	6	Lv College Park																		2 57	3 50	5 22		
2.6	6	Lv Santa Clara	5 09	5 47	6 18		6 33			7 00		7 10	7 21		8 05		10 15	11 35	12 19	3 00	3 55	5 25	7 24	10 05
8.1	5	Lv Sunnyvale	5 15	5 54		6 29	6 45		7 02		7 11	7 17	7 27		8 11	9 01	10 22	11 42	12 55	3 06	3 59	5 32	7 30	10 11
10.8	5	Lv Mountain View	5 20	5 58	6 28	6 33		6 57		7 11		7 23	7 32	7 45	8 16	9 05	10 26	11 46	12 59	3 10	4 03	5 38	7 34	10 16
12.1	5	Lv Castro					6 52				7 17													
15.?	4	Lv California Ave.	5 25	6 05	6 35			7 04		7 18		7 29	7 38		8 21	9 10	10 32	11 52	1 04	3 16	4 09	5 44	7 39	10 21
16.8	4	Lv Palo Alto	5 28	6 08		6 41		7 08			7 23		7 41	7 57	8 24	9 12	10 35	11 55	1 07	3 19	4 12	5 47	7 42	10 24
18.0	4	Lv Menlo Park	5 31	6 11		6 44			7 16				7 44	8 00	8 27	9 15	10 38	11 58	1 10	3 22	4 14	5 50	7 45	10 27
19.1	4	Lv Atherton	5 34	6 14	6 41		7 0?		7 19		7 34		7 47	8 02	8 30	9 18	10 41	12 01	1 13	3 24	4 17	5 53	7 47	10 29
21.5	3	Lv Redwood City	5 38	6 18		6 50	7 06			7 29		7 41	7 52	8 06	8 34	9 23	10 45	12 05	1 18	3 28	4 21	5 57	7 51	10 33
23.7	3	Lv San Carlos	5 42	6 22		6 54	7 10		7 27			7 45	7 56	8 09	8 37	9 26	10 49	12 09	1 21	3 31	4 24	6 01	7 55	10 36
25.0	3	Lv Belmont	5 45	6 25	6 49			7 19			7 43		7 59	8 12	8 40		10 52	12 12	1 24	3 34	4 27	6 04	7 58	10 39
26.6	3	Lv Hillsdale	5 48	6 28		6 59		7 23			7 46		8 02	8 15	8 43	9 31	10 55	12 15	1 27	3 36	4 30	6 07	8 01	10 42
28.0	2	Lv Hayward Park	5 50	6 31			7 17			7 38			8 05								4 3?	6 09		
29.?	2	Lv San Mateo	5 53	6 34	6 55	7 04		7 28		7 41			8 07	8 19	8 47	9 37	10 59	12 19	1 32	3 39	4 36	6 13	8 06	10 46
30.6	2	Lv Burlingame	5 56	6 37	6 58		7 22			7 45			8 11		8 50	9 40	11 02	12 22	1 35	3 42	4 39	6 17	8 08	10 49
31.7	2	Lv Broadway	5 59	6 40	7 01	7 09			7 38				8 14	8 25	8 52	9 46	11 04	12 24	1 37	3 44	4 42	6 19	8 11	10 51
33.2	1	Lv Millbrae	6 02	6 45	7 05	7 13			7 42			7 58		8 26	8 55		11 07	12 27	1 39	3 47	4 45	6 22	8 14	10 54
35.3	1	Lv San Bruno	6 05	6 47	7 09		7 25	7 36					8 20	8 30	8 58		11 10	12 30	1 42	3 50	4 48	6 25	8 17	10 57
37.6	1	Lv So. San Francisco	6 08	6 52		7 20		7 41	7 49				8 24	8 35	9 02				1 45	3 55	4 53	6 30	8 21	11 02
38.2	1	Lv Butler Road		6 55	7 14	7 25																		
41.7		Lv Bayshore	6 13	7 00		7 28	7 36	7 47											1 50	4 00	4 58	6 35		11 07
42.8		Lv Paul Ave.			7 21	7 32	7 39																	
45.?		Lv 23rd St.	6 18	7 05	7 27	7 36	7 47					8 11							1 58					
46.9		Ar San Francisco (3rd St.)	6 25	7 15	7 33	7 45	7 55	8 00	8 05	8 09	8 13	8 20	8 40	8 50	9 13	10 05	11 30	12 50	2 05	4 10	5 10	6 45	8 40	11 20

SATURDAY EXCEPT HOLIDAYS (See Note a) — SUNDAY AND HOLIDAYS (See Note a)

Miles	Zone No.	Train Numbers	Sat. 113	Sat. 163	Sat. 165	Sat. 167	Sat. 139	Sat. 141	Sat. 143	Sat. 145	Sat. 173	Sat. 151	Sat. 153	Sat. 155	Sun. 161	Sun. 165	Sun. 141	Sun. 169	Sun. 171	Sun. 151	Sun. 153	Sun. 175	Sun. 155
			A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.
0.0	6	Lv San Jose	5 05	6 10	6 45	8 20	8 52	10 10	11 30	12 45	4 35	5 26	7 20	10 00	5 50	6 45	10 10	10 40	1 50	5 20	7 20	8 30	10 00
1.2	6	Lv College Park										5 22								5 22			
2.6	6	Lv Santa Clara	5 09	6 14	6 49	8 24		10 15	11 35	12 49	4 39	5 25	7 24	10 05	5 54	6 49	10 15	10 44	1 55	5 25	7 24	8 34	10 05
8.1	5	Lv Sunnyvale	5 15	6 20	6 55	8 30	9 01	10 22	11 42	12 55	4 45	5 32	7 30	10 11	5 40	6 55	10 22	10 50	2 00	5 32	7 30	8 40	10 11
10.8	5	Lv Mountain View	5 20	6 24	6 59	8 34	9 05	10 26	11 46	12 59	4 49	5 38	7 34	10 15	5 44	6 59	10 26	10 54	2 04	5 38	7 34	8 44	10 15
15.?	4	Lv California Ave.	5 25	6 29	7 04	8 38	[illegible]	10 32	11 52	1 04	4 54	5 44	7 39	10 21	5 49	7 04	10 32	10 59	2 09	5 4?	7 39	8 49	10 21
16.6	4	Lv Palo Alto	5 28	6 31	7 07	8 42	[illegible]	10 35	11 55	1 07	4 57	5 47	7 42	10 24	5 52	7 07	10 35	11 02	2 12	5 47	7 42	8 52	10 24
18.0	4	Lv Menlo Park	5 31	6 33	7 10	8 44	[illegible]	10 38	11 58	1 10	4 59	5 50	7 45	10 27	5 54	7 10	10 38	11 04	2 14	5 50	7 45	8 54	10 27
19.1	4	Lv Atherton	5 34	6 36	7 12	8 46	[illegible]	10 41	12 01	1 13	5 01	5 53	7 47	10 29	5 56	7 12	10 41	11 06	2 16	5 53	7 47	8 56	10 29
21.5	3	Lv Redwood City	5 38	6 3?	7 16	8 50	9 2?	10 45	12 05	1 18	5 05	5 57	7 51	10 33	6 0?	7 16	10 45	11 10	2 20	5 57	7 51	9 0?	10 33
23.?	3	Lv San Carlos	5 42	6 42	7 20	8 53	9 26	10 49	12 08	1 21	5 0?	6 01	7 5?	10 36	6 0?	7 20	10 49	11 13	2 23	6 01	7 55	9 03	10 36
25.?	3	Lv Belmont	5 45	6 43	7 25	8 55		10 52	12 12	1 24	5 10	6 04	7 58	10 39	6 05	7 2?	10 52	11 15	2 25	6 04	7 58	9 0?	10 39
26.6	3	Lv Hillsdale	5 48	6 46	7 26	8 57	9 31	10 55	12 15	1 27	5 12	6 07	8 01	10 42	6 07	7 2?	10 55	11 17	2 27	6 07	8 01	9 07	10 42
28.0	2	Lv Hayward Park	5 50	6 48	7 24	8 53						6 09			6 09	7 28				6 09			
29.?	2	Lv San Mateo	5 53	6 50	7 31	9 01	9 37	10 59	12 19	1 32	5 16	6 13	8 06	10 46	6 11	7 31	10 59	11 20	2 31	6 13	8 06	9 10	10 46
30.6	2	Lv Burlingame	5 56	6 53	7 34	9 04	9 40	11 02	12 22	1 35	5 19	6 17	8 09	10 4?	6 14	7 34	11 02	11 23	2 34	6 17	8 09	9 13	10 49
31.7	2	Lv Broadway	5 59	6 56	7 36	9 06	9 43	11 04	12 24	1 37	5 21	6 19	8 11	10 51	6 16	7 36	11 04	11 25	2 36	6 19	8 11	9 15	10 51
33.2	1	Lv Millbrae	6 02	6 59	7 39	9 08		11 07	12 27	1 39	5 24	6 22	8 14	10 54	6 19	7 39	11 07	11 28	2 39	6 22	8 14	9 18	10 54
35.3	1	Lv San Bruno	6 05	7 02	7 42	9 11		11 10	12 30	1 42	5 27	6 25	8 17	10 57	6 22	7 4?	11 10	11 3?	2 42	6 25	8 17	9 21	10 57
37.6	1	Lv So. San Francisco	6 08	7 06	7 46	9 15				1 45	5 32	6 30	8 21	11 02	6 25	7 46		11 3?	2 47	6 30	8 21	9 27	11 02
38.3	1	Lv Butler Road			7 48											7 48							
41.7		Lv Bayshore	6 13	7 12	7 5?					1 50		6 35		11 07	6 31	7 53		11 4?	2 53	6 35		9 33	11 07
42.8		Lv Paul Ave.			7 5?											7 55							
45.?		Lv 23rd St.	6 18	7 1?						1 58	5 43				6 3?								
46.9		Ar San Francisco (3rd St.)	6 25	7 25	8 05	9 35	10 0?	11 30	12 50	2 05	5 50	6 45	8 40	11 26	6 45	8 05	11 3?	11 55	3 05	6 45	8 40	9 45	11 26

All PM time in Dark faced figures.

a—Holiday schedule operated on New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

b—Does not operate from San Jose station.

SAN FRANCISCO TO SAN JOSE

MONDAY THROUGH FRIDAY EXCEPT HOLIDAYS (See Note a)

Miles	Zone No.	Train Numbers	110	112	114	116	118	120	172	124	126	128	130	132	134	136	138	140	142	144	146	148	150	108
			A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.
0.0		Lv San Francisco	6 10	7 10	8 25	11 00	1 50	3 00	4 15	4 40	4 50	4 55	5 11	5 17	5 20	5 23	5 26	5 45	6 00	6 30	7 10	8 35	10 05	12 35
1.9		Lv 23rd St.						3 04	4 19	4 44	4 54	4 59						5 49						
4.1		Lv Paul Ave.							4 23	4 48	4 58													
5.2		Lv Bayshore		7 19	8 33			3 09	4 27	4 52														
8.6		Lv Butler Road							4 31	4 57												8 43	10 08	12 44
9.3	1	Lv So. San Francisco	6 23	7 23	8 28	11 13	2 03	3 14	4 3?	4 59		5 09					5 10		6 13	6 44		8 48	10 12	
11.6	1	Lv San Bruno	6 26	7 26	8 31	11 16	2 07	3 17	4 37	5 03	5 08	5 12					5 1?	6 04	6 17	6 47	7 24	8 51	10 16	12 5?
13.7	1	Lv Millbrae	6 29	7 29	8 34	11 19	2 10	3 20	4 11		5 12						5 30	6 08	6 2?	6 49	7 26	8 5?	10 1?	12 ?2
15.2	2	Lv Broadway	6 32	7 32	8 47	11 22	2 13	3 23	4 41			5 18					5 54	6 11	6 27	6 52	7 29	8 57	10 22	12 5?
16.3	2	Lv Burlingame	6 3?	7 3?	8 50	11 25	2 1?	3 2?	4 46		5 17					5 17		6 14	6 2?	6 55	7 3?	9 00	10 25	12 57
17.9	2	Lv San Mateo	6 39	7 37	8 54	11 29	2 20	3 29	4 51	5 12		5 23				5 31		6 17	6 29	6 58	7 3?	9 0?	10 2?	12 5?
18.9	2	Lv Hayward Park		7 39					4 53			5 26					6 00	6 2?	6 32	7 0?	7 37	9 06	10 31	
20.3	3	Lv Hillsdale	6 4?	7 42	8 58	11 33	2 22	3 32	4 55	5 17						5 55		6 23	6 37	7 03	7 41	9 03	10 34	1 0?
21.9	3	Lv Belmont	6 46	7 45	9 01	11 36	2 27	3 35	5 00			5 31			5 47			6 28	6 39	7 06	7 43	9 12	10 37	1 0?
23.2	3	Lv San Carlos	6 4?	7 48	9 04	11 39	2 30	3 38	5 03		5 2?				5 5?			6 29	6 42	7 09	7 4?	9 15	10 40	1 0?
25.4	3	Lv Redwood City	6 53	7 51	9 0?	11 45	2 33	3 42	5 07	5 25				5 46			6 09	6 33	6 46	7 12	7 50	9 19	10 44	1 1?
27.8	4	Lv Atherton	[illegible]	7 54	9 11	11 46	2 37	3 45	5 12		5 35				5 59		6 14	6 28	6 50	7 16	7 53	9 22	10 47	1 16
28.9	4	Lv Menlo Park	6 59	7 57	9 14	11 49	2 41	3 48	5 15			5 41		5 53		6 07		6 41	6 53	7 19	7 56	9 25	10 50	1 1?
30.1	4	Lv Palo Alto	7 03	8 00	9 17	11 52	2 44	3 51	5 19		5 41			5 57		6 1?		6 44	6 56	7 22	7 59	9 28	10 53	1 21
31.8	4	Lv California Ave.	7 06	8 03	9 20	11 55	2 48	3 54	5 23	5 35			5 52	6 00	6 0?		6 20	6 47	6 58	7 25	8 02	9 31	10 56	1 24
34.0	5	Lv Castro										5 49			6 10			6 5?						
36.1	5	Lv Mountain View	7 12	8 02	9 26	12 04	2 51	4 00	5 30		5 49	5 52	6 03	6 07		6 14	6 27	6 54	7 0?	7 51	8 0?	9 37	11 02	1 30
38.8	5	Lv Sunnyvale	7 16	8 1?	9 30	12 05	2 57	4 04	5 35	5 41			6 06	6 12		6 22	6 31	6 59	7 08	7 5?	8 1?	9 41	11 06	1 34
44.3	6	Lv Santa Clara	7 22	8 20	9 37	12 12	3 05	4 11	5 42		5 59		6 14	6 13	6 22		6 38	7 06		7 41	8 18	9 48	11 13	1 4?
45.7	6	Lv College Park	7 24	8 22						5 5?														
46.9	6	Ar San Jose	7 30	8 39	9 1?	12 20	3 15	4 20	5 50	5 57	6 05	6 10	6 23	6 27	6 30	6 38	6 18	7 14	7 21	7 47	8 25	9 55	11 20	1 50

SATURDAY EXCEPT HOLIDAYS (See Note a) — SUNDAY AND HOLIDAYS (See Note a)

Miles	Zone No.	Train Numbers	Sat. 112	Sat. 114	Sat. 116	Sat. 166	Sat. 118	Sat. 120	Sat. 168	Sat. 126	Sat. 170	Sat. 144	Sat. 150	Sat. 108	Sun. 112	Sun. 114	Sun. 116	Sun. 118	Sun. 166	Sun. 124	Sun. 146	Sun. 150	Sun. 108
			A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.
0.0		Lv San Francisco	7 10	8 25	11 00	12 30	1 50	3 00	4 15	4 50	5 20	6 30	10 00	12 35	7 10	8 25	11 00	1 50	4 15	4 50	7 10	10 00	12 35
1.9		Lv 23rd St.				12 34		3 04		4 54	5 23									4 54			
4.1		Lv Paul Ave.								4 58	5 25									4 58			
5.2		Lv Bayshore	7 18	8 33		12 38		3 09	4 24		5 29		10 08	12 44	7 18	8 33			4 23				
8.6		Lv Butler Road																				10 08	12 44
9.3	1	Lv So. San Francisco	7 23	8 38	11 13	12 43	2 04	3 14	4 28		5 33	6 44	10 13		7 2?	8 ??	11 13	2 03	4 28			10 13	
11.6	1	Lv San Bruno	7 26	8 41	11 16	12 46	2 07	3 17	4 31	5 08	5 36	6 47	10 16	12 5?	7 2?	8 41	11 16	2 07	4 31	5 08	7 24	10 16	12 5?
13.7	1	Lv Millbrae	7 29	8 44	11 19	12 49	2 10	3 20	4 34	5 12	5 39	6 49	10 19	12 5?	7 29	8 44	11 19	2 10	4 34	5 12	7 26	10 19	12 52
15.2	2	Lv Broadway	7 32	8 47	11 22	12 51	2 13	3 23	4 37		5 42	6 52	10 22	12 5?	7 32	8 47	11 22	2 13	4 37		7 29	10 22	12 5?
16.3	2	Lv Burlingame	7 34	8 50	11 25	12 52	2 16	3 25	4 40	5 17	5 44	6 55	10 25	12 57	7 34	8 50	11 25	2 16	4 40	5 17	7 32	10 25	12 57
17.9	2	Lv San Mateo	7 37	8 54	11 29	12 55	2 20	3 28	4 44		5 47	6 58	10 28	12 59	7 37	8 54	11 29	2 20	4 44		7 35	10 28	12 59
18.9	2	Lv Hayward Park	7 39			12 57					5 50	7 00	10 31		7 39						7 37	10 31	
20.3	3	Lv Hillsdale	7 42	8 58	11 33	12 59	2 23	3 32	4 48		5 53	7 03	10 34	1 02	7 42	8 58	11 33	2 23	4 48		7 40	10 34	1 02
21.9	3	Lv Belmont	7 45	9 01	11 36	1 02	2 27	3 35	4 51		5 56	7 06	10 37	1 05	7 45	9 01	11 36	2 27	4 51		7 43	10 37	1 05
23.2	3	Lv San Carlos	7 48	9 04	11 39	1 05	2 30	3 38	4 54	5 27	5 59	7 09	10 40	1 08	7 48	9 04	11 39	2 30	4 54	5 27	7 46	10 40	1 0?
25.4	3	Lv Redwood City	7 51	9 08	11 43	1 08	2 31	3 42	4 58		6 02	7 12	10 44	1 13	7 51	9 08	11 43	2 31	4 58		7 50	10 44	1 13
27.8	4	Lv Atherton	7 54	9 11	11 46	1 11	2 37	3 45	5 01	5 35	6 05	7 16	10 47	1 1?	7 54	9 11	11 46	2 37	5 01	5 35	7 53	10 47	1 16
28.9	4	Lv Menlo Park	7 57	9 14	11 49	1 14	2 41	3 48	5 04		6 07	7 19	10 50	1 19	7 57	9 14	11 49	2 41	5 04		7 56	10 50	1 19
30.1	4	Lv Palo Alto	8 00	9 17	11 52	1 17	2 44	3 51	5 07	5 41	6 10	7 22	10 53	1 2?	8 00	9 17	11 52	2 44	5 07	5 41	7 59	10 53	1 22
31.8	4	Lv California Ave.	8 03	9 20	11 55	1 20	2 48	3 54	5 10		6 13	7 25	10 56	1 24	8 03	9 20	11 55	2 48	5 10		8 02	10 56	1 24
36.1	5	Lv Mountain View	8 09	9 26	12 01	1 25	2 54	4 00	5 16	5 49	6 19	7 31	11 02	1 30	8 09	9 26	12 01	2 54	5 16	5 49	8 08	11 02	1 30
38.8	5	Lv Sunnyvale	8 13	9 30	12 05	1 29	2 57	4 04	5 20		6 22	7 35	11 06	1 34	8 13	9 30	12 05	2 57	5 20		8 12	11 06	1 34
44.3	6	Lv Santa Clara	8 20	9 37	12 12	1 36	3 05	4 11	5 27	5 59	6 29	7 41	11 13	1 42	8 20	9 37	12 12	3 05	5 27	5 59	8 19	11 13	1 42
45.7	6	Lv College Park	8 22						5 29						8 22				5 29				
46.9	6	Ar San Jose	8 30	9 45	12 20	1 45	3 15	4 20	5 34	6 05	6 35	7 47	11 20	1 50	8 30	9 45	12 20	3 15	5 34	6 05	8 24	11 20	1 50

All PM time in Dark faced figures.

a—Holiday schedule operated on New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.